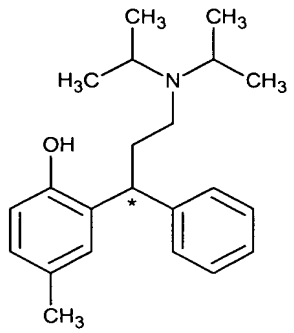
New claims in response to Written Opinion

CLAIMS

1. A process for obtaining 3-(2-hydroxy-5-methylphenyl)-N,N-diisopropyl-3-phenylpropylamine of formula (I)



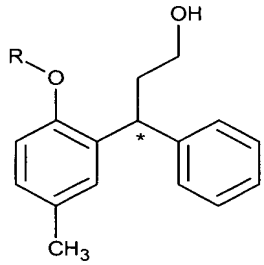
(I)

wherein the asterisk indicates an asymmetric carbon atom,

its enantiomers or mixtures thereof, or its pharmaceutically acceptable salts,

comprising:

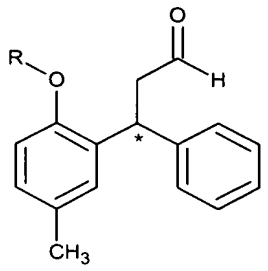
(a) oxidizing the alcohol of formula (IV)



(IV)

wherein the asterisk has the previously indicated meaning and R is a hydroxyl protecting group,

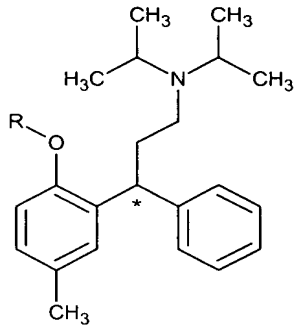
to give a compound of formula (II)



(II)

wherein R and the asterisk have the previously indicated meanings;

(b) reacting the compound of formula (II) with diisopropylamine in the presence of a reducing agent to give a compound of formula (III)



(III)

wherein R and the asterisk have the previously indicated meanings;

(c) removing the hydroxyl protecting group from the compound of formula (III) to obtain the compound of formula (I); and

(d) if so desired, separating the desired (R) or (S) enantiomer, or the mixture of enantiomers, and/or converting the compound of formula (I) into a pharmaceutically acceptable salt thereof.

2. A process according to claim 1, wherein said reducing agent is selected from $NaBCNH_3$, $NaB(AcO)_3H$ and hydrogen in the presence of Pd/C.

3. A process according to claim 1, wherein the reaction of the compound of formula (II) with diisopropylamine is carried out in a solvent selected from tetrahydrofuran, dichloromethane, acetonitrile and methanol.

4. A process according to claim 1, further comprising converting said compound of formula (III) into a salt, and, if desired, isolating said salt from the compound of formula (III) before removing the hydroxyl protecting group [step (c)].

5. A process according to claim 4, wherein said salt of the compound of formula (III) is an inorganic acid addition salt, preferably the hydrochloride, hydrobromide or sulfate of the compound of formula (III).

6. A process according to claim 4 or 5, wherein said salt of the compound of formula (III) is N,N-diisopropyl-3-(2-methoxy-5-methylphenyl)-3-phenylpropylamine hydrobromide.

7. A process according to claim 1 or 4, wherein the removal of the hydroxyl protecting group from the compound of formula (III), or from said salt of the compound of formula (III), is carried out by means of treating with a mineral acid, a Lewis acid or an organic sulfide.

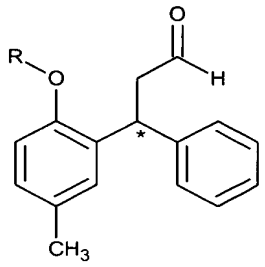
8. A process according to claim 7, wherein the removal of the hydroxyl protecting group from the compound of formula (III), or from said salt of the compound of formula (III), is carried out by means of treating with aqueous hydrobromic acid in acetic acid.

9. A process according to claim 1, wherein the obtained compound of formula (I) is selected from the (R) enantiomer, the (S) enantiomer and their mixtures.

10. A process according to claim 1, wherein the separation of the (R) or (S) enantiomers from the compound of formula (I) is carried out by means of fractional crystallization of the salts of said enantiomers with chiral acids.

11. A process according to claim 1, wherein the oxidation of the alcohol of formula (IV) to obtain the aldehyde of formula (II) is carried out using pyridinium chlorochromate (PCC), SO_3.pyridine (SO_3.pyr), the 2,2,6,6-tetramethylpiperidine (TMPP) N-oxide/NaClO system, or the Swern method.

12. A compound of formula (II)



(II)

wherein

R is a C_1-C_4 alkyl group, an optionally substituted benzyl group, aralkyl, silyl ether, carbonate or benzyl ester; and

the asterisk indicates an asymmetric carbon atom.

13. A compound according to claim 12, wherein R is methyl.

14. N,N-diisopropyl-3-(2-metoxi-5-methylphenyl)-3-phenylpropylamine hydrobromide.